

CLAIMS

What is claimed is:

1. An inspecting apparatus for a semiconductor device comprising:
a match plate;
a contact module combined with the match plate, the contact module comprising:
 a radiator to contact the semiconductor device, and
 a tester to contact leads of the semiconductor device, and
a thermally conductive pad installed on a contacting face of the radiator, to transfer heat from the semiconductor device to the radiator.
2. The inspecting apparatus for the semiconductor device according to claim 1, further comprising a plurality of contact modules, wherein the match plate is formed with a plurality of combining holes combinable with the plurality of contact modules.
3. The inspecting apparatus for the semiconductor device according to claim 1, wherein the thermally conductive pad is compressible.
4. The inspecting apparatus for the semiconductor device according to claim 1, wherein the thermally conductive pad is compressible from 1-2 mm.
5. The inspecting apparatus for the semiconductor device according to claim 1, wherein the thermally conductive pad comprises a ceramic-silicon composite.
6. The inspecting apparatus for the semiconductor device according to claim 1, wherein the thermally conductive pad is installed on the radiator using a thermally conductive double-sided adhesive member.
7. The inspecting apparatus for the semiconductor device according to claim 5, wherein the thermally conductive pad is installed on the radiator using a thermally conductive double-sided adhesive member.

8. The inspecting apparatus for the semiconductor device according to claim 6, wherein the thermally conductive double-sided adhesive member comprises an acrylic polymer.

9. The inspecting apparatus for the semiconductor device according to claim 7, wherein the thermally conductive double-sided adhesive member comprises an acrylic polymer.

10. The inspecting apparatus for the semiconductor device according to claim 1, wherein the radiator comprises:

a heat sink;

a contact pusher to contact the semiconductor device having the thermally conductive pad attached to a contacting face;

a heat flat pusher combined with the contact pusher and the heat sink to transfer heat from the semiconductor device to the heat sink via the contact pusher.

11. The inspecting apparatus for the semiconductor device according to claim 10, further comprising a first elastic member installed on the circumference of the heat flat pusher to elastically connect the contact block and the lead pusher.

12. The inspecting apparatus for the semiconductor device according to claim 10, further comprising a second elastic member installed between the match plate and the contact block, to allow the contact block to move up and down elastically corresponding to ascent and descent of the match plate, thereby pressing the lead pusher against the leads of the semiconductor device.

13. The inspecting apparatus for the semiconductor device according to claim 11, further comprising a second elastic member installed between the match plate and the contact block, to allow the contact block to move up and down elastically corresponding to ascent and descent of the match plate, thereby pressing the lead pusher against the leads of the semiconductor device.

14. The inspecting apparatus for the semiconductor device according to claim 11, wherein the first elastic member is a spring.

15. The inspecting apparatus for the semiconductor device according to claim 12, wherein the second elastic member is a spring.

16. The inspecting apparatus for the semiconductor device according to claim 13, wherein the first elastic member and the second elastic member are springs.

17. An apparatus for testing a semiconductor device comprising:
a heat sink to radiate heat away from the semiconductor device;
a contact pusher attached to the heat sink and having a contacting face; and
a thermally conductive pad attached to the contacting face of the contact pusher, the thermally conductive pad comprising a compressible material to minimize damage to the semiconductor device when the thermally conductive pad contacts the semiconductor device, the compressible thermally conductive pad conforms to irregularities of the semiconductor device, preventing air from being present between the thermally conductive pad and the semiconductor device when the thermally conductive pad and the semiconductor device are in contact.

18. An apparatus for testing semiconductor devices comprising:
a match plate having a plurality of combining holes; and
a plurality of contact modules combined with the plurality of combining holes respectively, the contact modules comprising:
a plurality of thermally conductive pads to contact the semiconductor devices and transfer heat away from the semiconductor devices,
a plurality of contact pushers to transfer heat from the thermally conductive pads, the contact pushers having the thermally conductive pads respectively attached to contacting faces by thermally conductive adhesives,
a plurality of heat flat pushers, combined with the contact pushers respectively, to transfer heat from the contact pushers,
a plurality of heat sinks to transfer heat from the heat flat pushers and to radiate the heat away from the semiconductor devices, the heat sinks being combined with the heat flat pushers respectively, and formed with a plurality of grooves to increase a surface area of the heat sinks,

a plurality of lead pushers to selectively contact leads of the semiconductor devices, and

a contact block combined with the lead pushers, the contact block being elastically combined with the contact pushers by a plurality of first elastic devices and elastically combined with the match plate by a plurality of second elastic devices, the contact block being formed with a plurality of through holes in which the heat flat pushers are located.